SMD Wire Wound Ceramic Chip Inductors

IWC0805 Series

APPLICATIONS

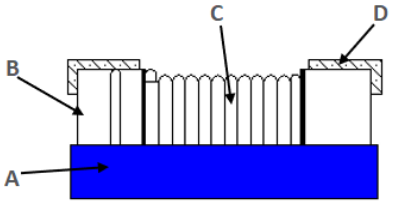
Resonant circuits, impedance matching for

- Antenna amplifiers
- Multimedia
- Wireless communication systems

FEATURES

- High resonance frequency
- Narrow inductance tolerance
- Suitable for lead-free reflow soldering
- RoHS-compatible

MATERIAL LIST



(A) Epoxy

(B) Ceramic

(C) Wire

(D) Terminal

Part Numbering

IWC	0805	D	24N	R	-3□
Product Series Code	Size Code	Rated Current Code	Inductance Value Code	Packing Code R-Tape&Reel	Additional Description
		A ≦ 100mA B=200mA C=300mA D=400mA E=500mA F=600mA G=700mA H=800mA I=900mA	0N3=0.3nH 6N8=6.8nH 24N=24nH R10=100nH		□-Tolerance Code G - ±2% J - ±5%

Notes

Standard testing conditions , unless otherwise specified

- Temperature: 15 ˚C to 35˚C
- Humidity: 25% to 85% (RH)
- L 、 Q、 SRF : Agilent E4991A+ Agilent 16197A
- Operating Temperature: -40 ˚C to +125 ˚C
- Storage Temperature: -10 ˚C to +40 ˚C
- Products should be used within 12 months, from the time of delivery
- Cosmetic specification refer to WI-QA-124

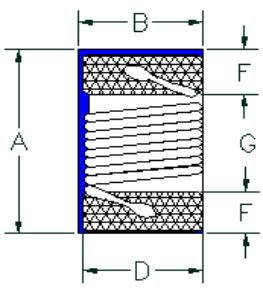
CHANGE HISTORY

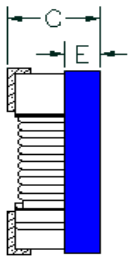
Rev	Items	Before	After	Owner	Date
A	—	—	—	Xiaolan Du	2021.10.14

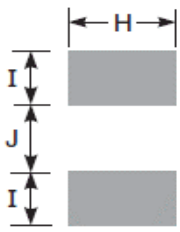
1.SPECIFICATION

Part Number	L (nH)	Tolerance	L Test Fre (MHz)	Q Min	Q Test Fre (MHz)	DCR Max (Ω)	Rated current (mA)	SRF (MHz)
IWC0805E22NR-3G	22	±2%	250	55	500	0.22	500	2600
IWC0805E22NR-3J	22	±5%	250	55	500	0.22	500	2600
IWC0805E27NR-3G	27	±2%	250	55	500	0.25	500	2500
IWC0805E27NR-3J	27	±5%	250	55	500	0.25	500	2500
IWC0805E33NR-3G	33	±2%	250	60	500	0.27	500	2050
IWC0805E33NR-3J	33	±5%	250	60	500	0.27	500	2050
IWC0805E39NR-3G	39	±2%	250	60	500	0.29	500	2000
IWC0805E39NR-3J	39	±5%	250	60	500	0.29	500	2000
IWC0805E47NR-3G	47	±2%	200	60	500	0.31	500	1600
IWC0805E47NR-3J	47	±5%	200	60	500	0.31	500	1600
IWC0805E68NR-3G	68	±2%	200	60	500	0.38	500	1350
IWC0805E68NR-3J	68	±5%	200	60	500	0.38	500	1350
IWC0805D82NR-3G	82	±2%	150	65	500	0.42	400	1300
IWC0805D82NR-3J	82	±5%	150	65	500	0.42	400	1300
IWC0805DR10R-3G	100	±2%	150	65	500	0.46	400	1200
IWC0805DR10R-3J	100	±5%	150	65	500	0.46	400	1200
IWC0805DR12R-3G	120	±2%	150	50	250	0.51	400	1100
IWC0805DR12R-3J	120	±5%	150	50	250	0.51	400	1100
IWC0805DR15R-3G	150	±2%	100	50	250	0.56	400	900
IWC0805DR15R-3J	150	±5%	100	50	250	0.56	400	900
IWC0805DR18R-3G	180	±2%	100	50	250	0.64	400	870
IWC0805DR18R-3J	180	±5%	100	50	250	0.64	400	870

2. Dimensions

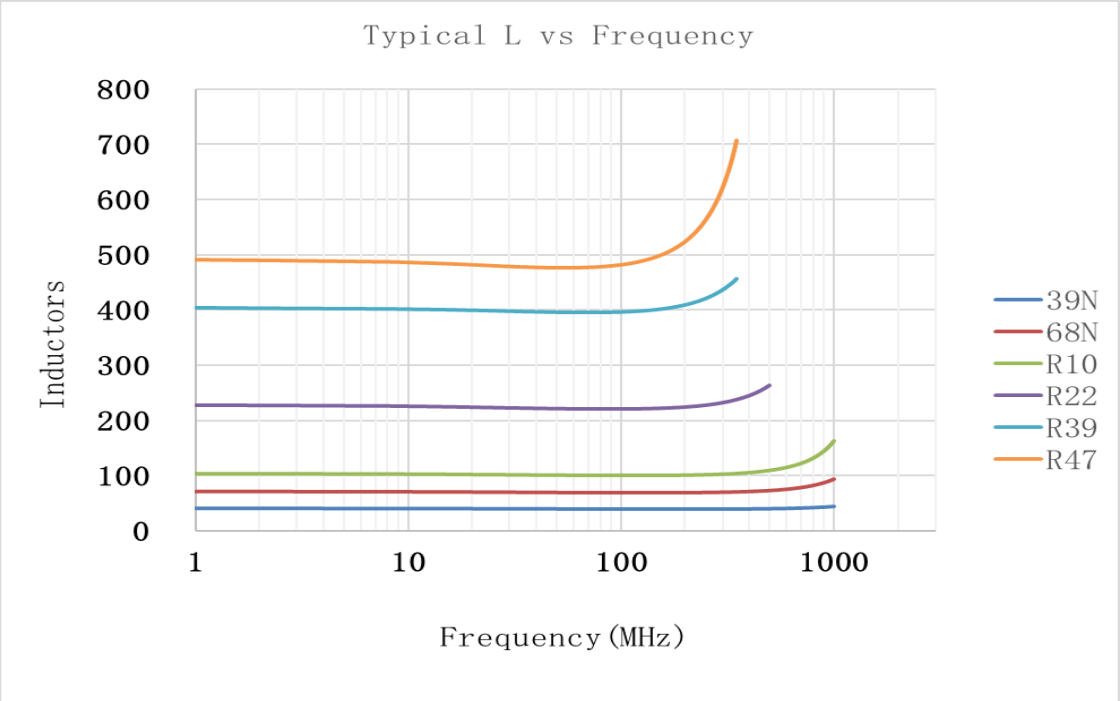


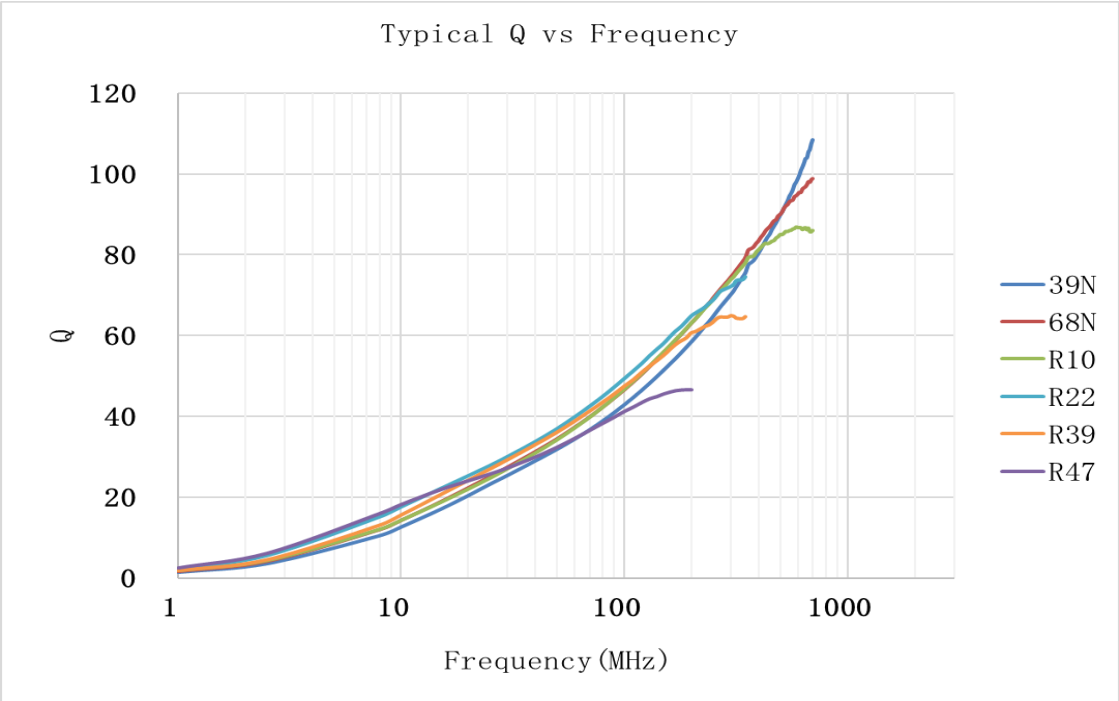




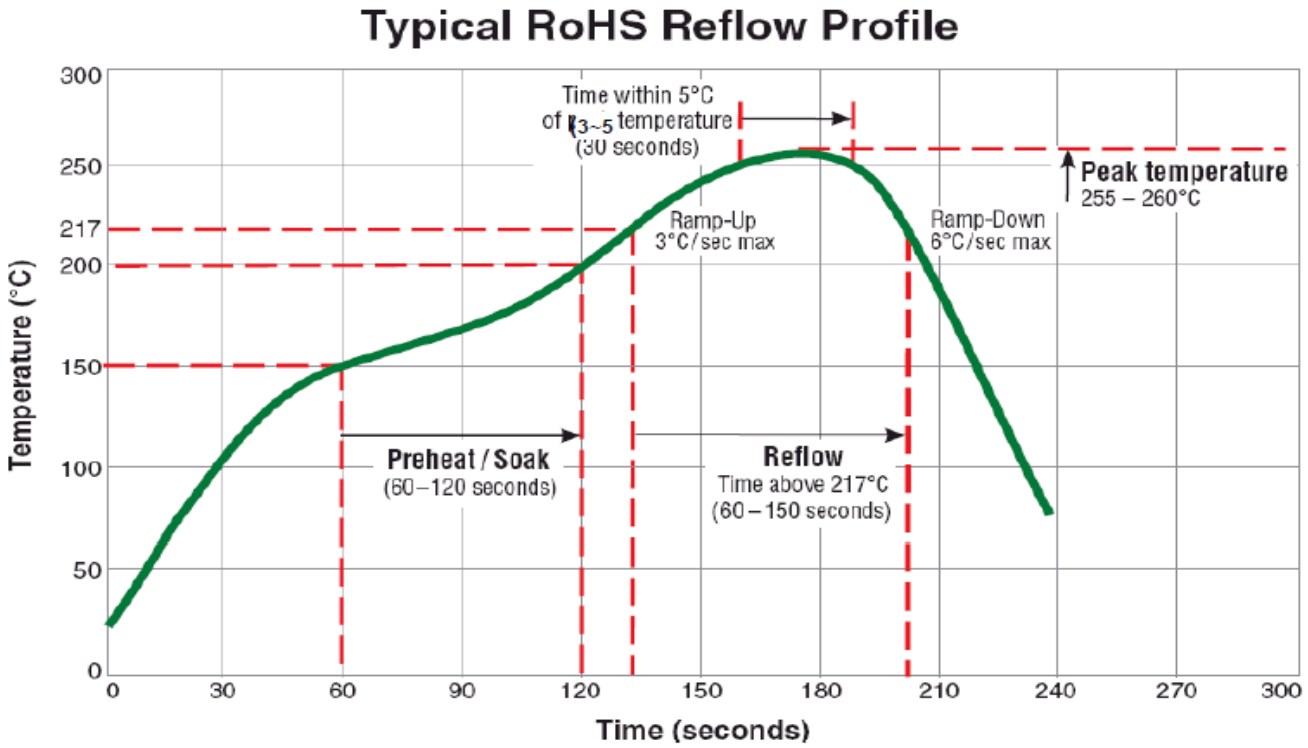
A Max	B Max	C Max	D Ref	E Ref	F Ref	G Ref	H Ref	I Ref	J Ref
2.35	1.73	1.52	1.27	0.7	0.51	1.02	1.78	1.02	0.76

3.CURVES


Typical L vs Frequency
Inductors
800
700
600
500
400
300
200
100
0
1
10
100
1000
Frequency (MHz)
39N
68N
R10
R22
R39
R47


Typical Q vs Frequency
Q
120
100
80
60
40
20
0
1
10
100
1000
Frequency (MHz)
39N
68N
R10
R22
R39
R47

4. SOLDERING

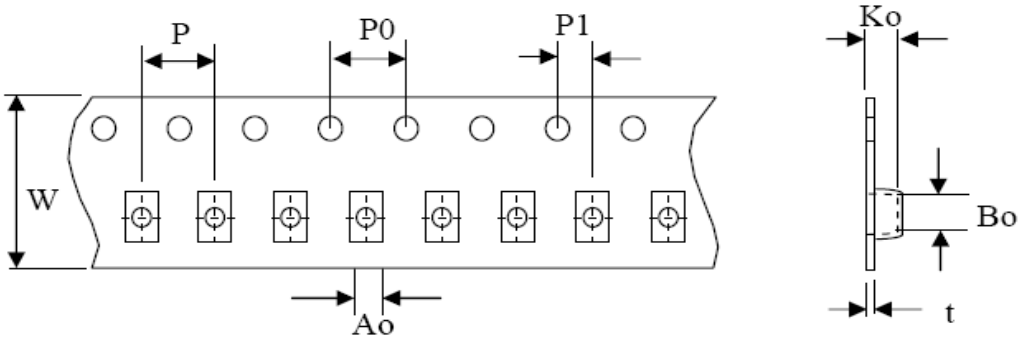

Typical RoHS Reflow Profile
Temperature (°C)
Time (seconds)
300
250
217
200
150
100
50
0
0
30
60
90
120
150
180
210
240
270
300
Time within 5°C
of 3~5 temperature
(30 seconds)
Peak temperature
255 – 260°C
Ramp-Up
3°C/sec max
Ramp-Down
6°C/sec max
Preheat / Soak
(60–120 seconds)
Reflow
Time above 217°C
(60–150 seconds)

5. PACKAGING

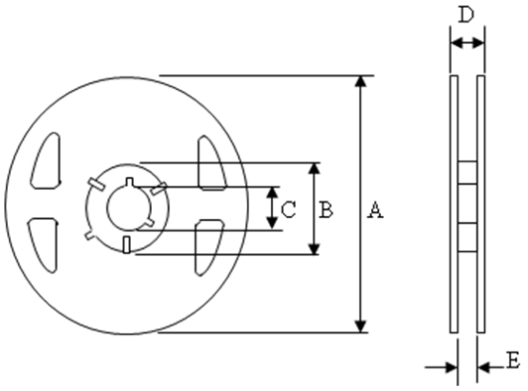
Packaging Style and Quantity

Laird Part Number	Packaging Type	Reel Quantity	Box Quantity
IWC0805 Series	Tape & Reel	2000	10000

Taping Condition (Typ)

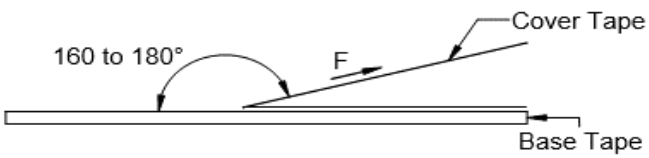


Ao	Bo	T	P	P1
1.85	2.45	0.23	4	2
W	**PO**	**KO**		
8	4	1.5		



Reel Specifications (Typ)	
A	180
B	60
C	13
D	14.4
E	8.4

Tape Strength



Tape Width	Peeling Force
8 mm	0.1N to 0.6N

6.RELIABILITY

No	Stress	Reference	Additional Requirements
1	High Temperature Exposure (Storage)	MIL-STD-202 Method 108	85±2℃, 168+24hours Inductance:within±10% of initial value
2	Temperature Cycling	JESD22 Method JA-104	-40℃~+85℃, 100cycles Inductance:within±10% of initial value
3	Operational Life	MIL-PRF-27	85℃(Including self-heating), 168hrs, rated current applied(as the part drawing). Inductance:within±10% of initial value
4	External Visual	MIL-STD-883 Method 2009	Inspect device construction, marking and workmanship. Electrical Test not required.
5	Physical Dimension	JESD22 Method JB-100	Verify physical dimensions to the applicable device detail specification. Note: User(s) and Suppliers spec. Electrical Test not required.
6	Vibration	MIL-STD-202 Method 204	10~55Hz,1.5mm,2 hours in each 3mutually perpendicular directions,(total of 6 hours) Inductance:within±10% of initial value
7	Resistance to Soldering Heat	MIL-STD-202 Method 210	1. Max. 260±5℃,10±1s, 2 times 2.Solder Composition: Sn/3Ag/0.5Cu
8	Solderability	J-STD-002	245±5℃, 5±1sec, Solder: Sn/3.0Ag/0.5Cu
9	Electrical Characterization	User Spec.	Parametrically test per lot and sample size requirements, summary to show Min, Max, Mean and Standard deviation at room as well as Min and Max Operating temperatures.
10	Board Flex	AEC-Q200-005	2mm(min), Dwell:30±1 sec.
11	Terminal Strength	AEC-Q200-006	Force:10N, Dwell:5+1 sec, X, Y direct

Unikeyic Electronics

Global Electronic Components Distributor

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Laird:

HI1206N680R-10 TYS30126R8M-10 28A1507-0A2 CM3440Z171R-10 CMX1211Z680B-10
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MGV201610R68M-10 28A2005-0A2 HF0402B102R-10 HI0805O121R-10 LI0603B201R-10 LI0603G221R-10
MI1210K600R-10 0097064502 28A0392-0A2 24296254 28B0734-000 29220104 CC1812C513R-10
DA1206D301R-10 NS1050HA 0097061102 28B0500-100 28R1141-010 A15754-04 LFB095051-000